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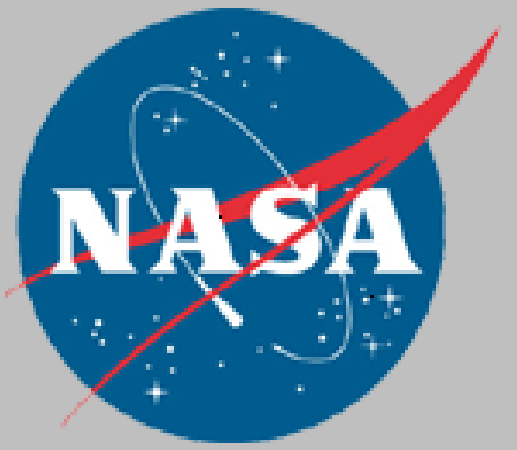

LEARN Technical Seminar
September 30, 2015

Background

Leading Edge Aeronautics Research for NASA (LEARN)

- LEARN was one of two research funds establish in 2012 under the NASA Aeronautics Research Institute (NARI)
  - The funds were created to provide researchers opportunities to establish creditability for their innovative aviation technology concepts
    - Seedling fund was only open to proposals from NASA civil servant Principal Investigators (PI)
    - The LEARN fund was open to PI led proposals from all members of the US aeronautics community – except NASA civil servants
    - Both funds' objective is to give high potential novel aviation concepts a chance to establish if further investment by NASA or industry is warranted
  - In 2013 the emphasis of LEARN and Seedling was changed from individual PI led proposals to teams with diverse research discipline members
    - Award value increase and number of awards decreased
  - As part of the FY2015 ARMD restructuring Seedling was integrated into the new Convergent Aeronautics Solutions (CAS) project, and LEARN became a project, both under the Transformative Aeronautics Concepts (TAC) Program

LEARN First Round

- Sixteen Individual Principle Investigator (PI)-led proposals received Phase I collaborative agreement awards for a 12-month period of performance
- At the conclusion of Phase I, five innovative research concepts were selected for an 18-month Phase II effort
- The research accomplishments being presented in this seminar represents the culmination of two and a half years of work in pursuit of four of these concepts
  - This marks the completion of the first full LEARN Phase I & II cycle

- Additional LEARN Research collaborations
  - Second round LEARN Phase I has been completed
  - Second round LEARN Phase II teams selected
  - Third round LEARN Phase I is underway
  - LEARN UAS autonomy testbed design teams selected

LEARN Phase II Technical Seminar

- **8:30 a.m. to 8:45 a.m.**

  Michael Dudley – *Introduction*
- **8:45 a.m. to 9:45 a.m.**

  Yu Gu – *Cooperative Gust Sensing and Suppression for Aircraft Formation Flight* West Virginia University Research Corporation
- **09:45 a.m. to 10:15 a.m.** Break
- **10:15 a.m. to 11:15 a.m.**

  Jose Palacios – *Centrifugally Powered Pneumatic De-Icing for Helicopter* Rotor Blades Pennsylvania State University
- **11:15 a.m. to 12:15 p.m.**

  Wookyung Kim – *Plasma-Assisted Combustor Dynamics Control* United Technologies Corporation
- **12:15 a.m. to 12:45 p.m.** Break
- **12:45 p.m. to 1:45 p.m.**

  Michael Kerho – *Turboelectric Distributed Propulsion Test Bed Aircraft* Rolling Hills Research Corporation